

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-57. (Canceled)

Claim 58. (Previously presented) A process for the production of a composite material comprising collagen, brushite and one or more glycosaminoglycans, said process comprising the steps of

providing an acidic aqueous solution comprising collagen, a calcium source and a phosphorous source and one or more glycosaminoglycans, and
precipitating the collagen, the brushite and the one or more glycosaminoglycans together from the aqueous solution to form a triple co-precipitate.

Claim 59. (Currently amended) ~~A~~ The process as claimed in claim 58, wherein the solution has a pH of from 2.5 to 6.5.

Claim 60. (Currently amended) ~~A~~ The process as claimed in claim 59, wherein the solution has a pH of from 3 to 4.5.

Claim 61. (Currently amended) ~~A~~ The process as claimed in claim 60, wherein the solution has a pH of from 3.8 to 4.2.

Claim 62. (Currently amended) ~~A~~ The process as claimed in claim 58, wherein the calcium source is selected from one or more of calcium nitrate, calcium acetate, calcium chloride, calcium carbonate and calcium alkoxide, calcium hydroxide, calcium silicate, calcium sulphate, calcium gluconate and the calcium salt of heparin.

Claim 63. (Currently amended) A The process as claimed in claim 58, wherein the phosphorus source is selected from one or more of ammonium-dihydrogen phosphate, diammonium hydrogen phosphate, phosphoric acid, disodium hydrogen orthophosphate 2-hydrate and trimethyl phosphate.

Claim 64. (Currently amended) A The process as claimed in claim 58, wherein the one or more glycosaminoglycans are selected from chondroitin sulphate, dermatin sulphate, heparin, heparin sulphate, keratin sulphate and hyaluronic acid.

Claim 65. (Currently amended) A The process as claimed in claim 58, wherein the solution has a temperature of from 4 to 50°C.

Claim 66. (Currently amended) A The process as claimed in claim 58, wherein the ratio of collagen to the total amount of one or more glycosaminoglycans in the solution is from 8:1 to 30:1 by weight.

Claim 67. (Currently amended) A The process as claimed in claim 58, wherein the solution comprises calcium ions and the ratio of collagen to the calcium ions is from 1:40 to 500:1 by weight.

Claim 68. (Currently amended) A The process as claimed in claim 58, wherein the ratio of collagen to brushite in the co-precipitate is from 10:1 to 1:100 by weight.

Claim 69. (Currently amended) A The process as claimed in claim 58, wherein the solution comprises calcium ions and the concentration of calcium ions in solution is from 0.00025 to 1 M.

Claim 70. (Currently amended) A The process as claimed in claim 58, wherein the solution comprises phosphate ions and the concentration of phosphate ions in the solution is from ~~is from~~ 0.00025 to 1 M.

Claim 71. (Currently amended) A The process as claimed in claim 58, wherein the concentration of collagen in the solution is from 1.0 to 20 g/L.

Claim 72. (Currently amended) A The process as claimed in claim 58, wherein the total concentration of the one or more glycosaminoglycans in the solution is from 0.01 to 1.5 g/L.

Claim 73. (Currently amended) A process for the production of a composite biomaterial comprising collagen, octacalcium phosphate and one or more glycosaminoglycans, said process comprising the steps of
providing a composite material comprising a triple co-precipitate of collagen, brushite and one or more glycosaminoglycans, and
converting at least some of the brushite in the composite material to octacalcium phosphate by hydrolysis.

Claim 74. (Currently amended) A The process as claimed in claim 73, wherein the composite material ~~comprises or~~ consists essentially of a the triple co-precipitate comprising collagen, brushite and one or more glycosaminoglycans.

Claim 75. (Currently amended) A The process as claimed in claim 73, wherein the step of hydrolysis of brushite to octacalcium phosphate comprises contacting the composite material with an aqueous solution, said aqueous solution being at or above the pH at which octacalcium phosphate becomes thermodynamically more stable than brushite.

Claim 76. (Currently amended) A The process as claimed in claim 75, wherein said aqueous solution has a pH of from 6 to 8.

Claim 77. (Currently amended) A The process as claimed in claim 76, wherein said aqueous solution has a pH of from 6.3 to 7.

Claim 78. (Currently amended) A process for the production of a composite biomaterial comprising collagen, apatite and one or more glycosaminoglycans, said process comprising the steps of

providing a composite material comprising a triple co-precipitate of collagen, brushite and one or more glycosaminoglycans, and

converting at least some of the brushite in the composite material to apatite by hydrolysis.

Claim 79. (Currently amended) ~~A~~ The process as claimed in claim 78, wherein the composite material ~~comprises or consists essentially of a~~ the triple co-precipitate comprising collagen, brushite and one or more glycosaminoglycans.

Claim 80. (Currently amended) ~~A~~ The process as claimed in claim 78, wherein the step of hydrolysis of brushite to apatite comprises contacting the composite material with an aqueous solution, said aqueous solution being at or above the pH at which apatite becomes thermodynamically more stable than brushite.

Claim 81. (Currently amended) ~~A~~ The process as claimed in claim 80, wherein said aqueous solution has a pH of from 6.65 to 9.

Claim 82. (Currently amended) ~~A~~ The process as claimed in claim ~~73~~ 78, wherein the conversion of brushite to ~~octacalcium phosphate and/or~~ apatite is carried out at a temperature of from 20 to 50°C.

Claim 83. (Currently amended) ~~A~~ The process as claimed in claim ~~4~~ 58, further comprising the steps of crosslinking the collagen and the one or more glycosaminoglycans in the ~~composite material or triple co-precipitate~~.

Claim 84. (Currently amended) A precursor material for transforming into a synthetic biomaterial, said precursor material comprising a composite material comprising collagen, brushite and one or more glycosaminoglycans wherein the

composite material comprises a triple co-precipitate comprising the collagen, the brushite and the one or more glycosaminoglycans .

Claim 85. (Currently amended) A ~~The~~ precursor material as claimed in claim 84, wherein the composite material ~~comprises or~~ consists essentially of a the triple co-precipitate comprising the collagen, the brushite and the one or more glycosaminoglycans.

Claim 86. (Previously presented) A composite biomaterial comprising a triple co-precipitate of collagen, brushite and one or more glycosaminoglycans.

Claim 87. (Currently amended) A biomaterial comprising triple co-precipitate particles of one or more calcium phosphate materials, collagen and one or more glycosaminoglycans, wherein said collagen and said one or more glycosaminoglycans are crosslinked and form a matrix,

said particles of calcium phosphate material are dispersed in said matrix, and
said calcium phosphate material is selected from one or more of brushite, octacalcium phosphate and/or apatite.

Claim 88. (New) The process of claim 58 wherein the aqueous solution is a solution / dispersion.